Resiliency and Brain Health

Department of Children’s Services
Moving Forward Together: Back to School Series
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Brain Links

Who we are
Statewide team of brain injury specialists

What we do
We equip professionals to better serve people with TBI with current research-based training and tools.

- Family-friendly resources at tndisability.org/brain
- Resources for Professionals
- Resources for return to school and work settings
- Playlists on Brain Links’ YouTube training channel
Agenda

- What is Resilience?
- Why do we need it?
- What does it have to do with the Brain?
- How do we get it?
  - Children
  - Teens
  - Ourselves
Resiliency

Bouncing back in the face of adversity

The *process* of negotiating, managing and adapting to significant sources of stress or trauma

Windle, 2012
“I can be changed by what happens to me. But I refuse to be reduced by it.”  
-Maya Angelou

“She was unstoppable, not because she did not have failures or doubts, but because she continued on despite them.”  
-Beau Taplin

“I am not what happened to me, I am what I choose to become.”  
-Carl Jung

“Nevertheless, she persisted.”  
-anon
Resilience

Mental Health

Brain Health

Physical Health

Longevity
The Value of Hardship

• Post Traumatic Growth
  • Improved relationships
  • New possibilities for our lives
  • Greater appreciation for our lives
  • Greater sense of personal strength
  • Spiritual development

Tedeschi & Calhoun

• Can make us more Resilient
What Resilience Can Do

- Active problem solvers
- Made plans
- Set goals
- Determined mindset: “This isn’t going to ruin my life.”

Kauai Study

EE Werner 1998, G Graves, 2021
With **stress**, there will be change in your brain.

There will actually be more change in your brain as you become more resilient.

This is Neuroplasticity.
With Stress...

- The PFC & Amygdala are activated.
- How quickly the messages stop between the PFC & Amygdala = how quickly you recover from that stress.
- Greater resilience = greater connections between Amygdala & PFC and greater activity in the PFC in general.
- The greater the PFC activity, the greater recovery.
- The quieter the Amygdala, the better the PFC can plan and act without negative emotions in the way.

So, Resilience is a Brain Thing.
ACEs: Adverse Childhood Experiences

- ACEs
- Microglial Cells
- Produce Neurochemicals
- Cause Inflammation
ACEs

Children with ACEs much more likely to develop

- Mood disorders
- Poor executive functioning
- Decreased decision-making skills

- Have weaker connections between the Prefrontal cortex and other key areas of the brain
Resilience is the ability to calm the Amygdala and turn on the Prefrontal Cortex
STRESS is

...what we perceive it to be.

Fun

...or Terror?

High stress and risk of death
...what we perceive it to be.

- AIDS and Optimism – those who were optimistic lived longer than those that were “realistic”
  - Being optimistic about our health might actually affect our life expectancy.
- Cancer and Heart Patients
- Betty
STRESS, Longevity and

The Oldest Old

• Handle stress better than the average person
• React less negatively, with less hostility
• Accept change as a part of life, even if it seems negative at first

From: The Okinawa Program
How do we build Resilience?

- In Children
- In Teens
- In All of Us
Resilience in Children

- Support of ONE caring adult – anyone
- Social connections – including their team of support

“I told grandma and she is so proud of you!”
Resilience in Children

- Being able to ask for help
  “Who have you asked for help with this?”
- Face fear with support
- Exercise – strengthens the brain, increases neurochemicals that calm stress

Heysigmund.com/building-resilience-children
# Build Executive Functions

<table>
<thead>
<tr>
<th>Establish Routines</th>
<th>Build Problem Solving Skills</th>
<th>Play</th>
<th>Some independence, able to disagree, make some of own decisions</th>
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<tbody>
<tr>
<td><strong>PROS</strong></td>
<td><strong>CONS</strong></td>
<td><strong>What’s worked before?</strong></td>
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<td><strong>List every idea – even silly</strong></td>
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<td><strong>Break down into steps</strong></td>
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<td><strong>List pros and cons</strong></td>
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Meditation

Effective for
• Depression
• Chronic Pain
• Anxiety
• Attention
• Addiction...

Changes in the Brain
• More grey matter volume
• Quiets down Default Mode Network (DMN)
• Increase in Hippocampus
• Decreases in Amygdala

Image: The Harvard Gazette
Different Ways to Meditate

- Quiet, stilling the mind
- Mantra
- Guided
- Progressive Relaxation
- Mindfulness...
YouTube Meditations for Children and Teens

Butterfly Body Scan

Tree Guided Meditation for Children & Classrooms
Relaxed Breathing

Headache Relief Guide
https://www.youtube.com/watch?v=YKxV07cisPA&feature=youtu.be
Build Resilience

• Build feelings of competence and a sense of mastery
  “You can do this.” “You are good at this.”

• Nurture optimism
  “What’s good about this situation?”

• Teach to reframe
  “You can turn this around.” “You can learn from this and do better next time.”

• Don’t rush in too fast to fix things for them
Build Resilience

• Meet them where they are
• Having a role model or hero
• Build supportive relationships around them
• Let them talk
• Let them know they are loved unconditionally

Heysigmund.com/building-resilience-children
Model Resilience

- Model resiliency
- Model healthy relationships
- Promote faith, hope, optimism and strength in adversity

Heysigmund.com/building-resilience-children
10 best phrases to teach resilience to your kids

1. **Goal**: Humour
   **Phrase**: “Come on, laugh it off”

2. **Goal**: Contain thinking, perfectionism and anxiety
   **Phrase**: “Don’t let this spoil everything”

3. **Goal**: Distraction
   **Phrase**: “Let’s take a break”

4. **Goal**: Handling worry and asking for help
   **Phrase**: “Who have you spoken to about this?”

5. **Goal**: Offering hope
   **Phrase**: “I know it looks bad now but you will get through this”

6. **Goal**: Positive reframing
   **Phrase**: “What can you learn from this so it doesn’t happen next time?”

7. **Goal**: Acceptance
   **Phrase**: “Don’t worry – relax and see what happens!”

8. **Goal**: Perspective
   **Phrase**: “This isn’t the end of the world”

9. **Goal**: Flexible thinking
   **Phrase**: “You could be right. But have you thought about ...”

10. **Goal**: Taking action
    **Phrase**: “What can we do about this?”

*Source: Kidspot*
Resilience in Teens
Resilience in Teens

- Having a refuge – a place to escape stress, find solitude
- Having a way to express themselves
- Continue to model, even if don’t appear to be paying attention

It’s all good in the end. If it’s not good, it’s not the end.

30+ Tips for Building Resilience in Children, Lonczak
Resilience in Teens

- Foster sense of mastery – locus of control
- Get professional help to reframe earlier traumas
- Volunteer Work
- Job

30+ Tips for Building Resilience in Children, Lonczak
Help them to develop

- Autonomy, self-reliance
- Relationships
- Initiative – take charge of their own lives
- Humor and optimism in difficult situations
- Morality “Do the right thing.”
- An awareness of stressors
- A passion in life (doesn’t have to be for life)
Resilience in Teens

• Self-Care
• Relaxation
• Try new things
• Set reasonable goals
• Take breaks
• Consistent routine
• Acceptance of change

30+ Tips for Building Resilience in Children, Lonczak
Resilience in Us All

Adults
Children
Teens
Anything that helps your brain...can help you be more resilient.
MUSIC

Relaxation, Recovery and Brain Health

1. Just listening
2. Listening and singing
3. Listening, singing and dancing
Whole Food Plant-Based Diet
(formerly known as vegan)

• Fruits
• Vegetables
• Whole Grains
• Legumes (peas, beans, lentils)

*Supports the brain AND behavior
Faith

Prayer
Meditation
Giving & Serving

Sabbath
Community
Concepts/Life Perspectives
Exercise

• Helps depression
• Helps with focus
• Decreases stress
• Lowers blood pressure

• Helps control blood sugar levels
• Helps maintain healthy weight
• Boosts immunity

...and more
Sleep

Your brain cleans itself of toxins and plaques during the night. If not cleaned, it causes brain fog, memory issues and can lead to dementia.

Lack of sleep
- Impacts emotional control & ability to think a few steps ahead
  Both are controlled by Prefrontal Cortex
- Increases the amygdala – increases emotional reaction

2 nights of no sleep – increases symptoms of depression, paranoia and anxiety
Sleep Strategies
1. Treat sleep apnea
2. Get 7-8 hours of sleep a night
3. Reduce/manage stress
4. Reduce use of electronic devices at night
5. Stick to a regular schedule
6. Reduce caffeine, especially at night
7. Drink chamomile tea
8. Kill the ANTs

Fix what keeps YOU up at night

For children’s needs at each age:
webmd.com/parenting/guide/sleep-children#1
Brain releases similar chemicals during negative self-talk and depression
-Suggests we can talk ourselves into depression

“...Your thoughts have biochemical counterparts. They are collections of neurotransmitters & nerve cell connections that can be triggered by electrical stimulation of the brain.”

The Okinawa Program
It is what it is.
“If you have fear of some pain or suffering, you should examine whether there is anything you can do about it.

If you can, there is no need to worry about it. If you cannot do anything, then there is also no need to worry about it.”

-Dalai Lama
Resilience in people with TBI seems to be similar to people with no BI.

BI severity, intelligence before injury and cognitive flexibility did not predict resilience.

Factors that did influence resilience: minority status, substance abuse before injury, higher anxiety, higher disability status & greater life satisfaction.

Marwitz et al, 2018; Hanks et al, 2016; Rappaport et al, 2020
• Recommendation:

Assess resilience during rehab; it may help with discharge planning (and treatment)

Marwitz et al, 2018; Hanks et al, 2016; Rappaport et al, 2020
Brain Health
How to Have a Healthy Brain Throughout Life

Evidence-based information on
• Eating Well
• Exercise
• Being Social
• Learning
• Mental Health
• Gratitude

❖ How to Make Change
❖ Free Resources
tndisability.org/brain

BRAIN HEALTH
HOW TO HAVE A HEALTHY BRAIN THROUGHOUT LIFE

Our brain controls everything we do: our moods and emotions, our movements, thoughts, and words. Some habits, like eating junk food, not exercising, smoking, and drinking alcohol can harm our brain. Unhealthy habits can lead to early loss of memory and thinking skills and sometimes dementia — a disorder that affects memory, personality and reasoning.

We can make changes right now - no matter what age we are - that will improve our brains and the quality of our lives.

HERE’S WHERE TO START:
Suggestions are based on current research.

EAT WELL
• The best diet for a healthy brain includes lots of vegetables, fruits, whole grains, healthy fats (avocados, nuts and seeds), and legumes (beans, peas and lentils) and NO eggs, meat or dairy. Try a vegan diet.
• If you feel that you can’t be a vegan, the next best choice for brain health is vegetarian, which is no meat or fish. If you can’t be a vegetarian, eat as many healthy, meatless meals as you can.
• Be aware of trendy diets. They can often help you lose weight in the short term, but may not be good for your body in the long term.

Avoid junk food, fast food restaurants and processed (main-made, factory-made) foods.


GREEN TEA: Did you know that green tea is a powerful brain-protective antioxidant (brain has the brain)?

• The more you drink green tea and have an accident that hurts your brain, it will help prevent your brain from injury. This is especially true after the injury, it will help.

PLANT FOODS VS ANIMAL FOD: Did you know that plant foods have a lot of nutrients that can protect your body from damage, including brain cells.

DR. GRAHAM’S DAILY DASH APP: This app helps you keep track of the healthy foods you eat and helps you figure out what you are eating.

EXERCISE
Cardiovascular exercise - any exercise that raises your heart rate - is good for your whole body, including your brain. Other exercise, like yoga, is very good for your body and for relaxation. To really benefit your brain, and cardiovascular exercise which will increase blood flow to your brain. Examples of this type of exercise are walking quickly, jogging, dancing and riding a bike.

Too little exercise actually hurts the brain.

Cardiovascular exercise has been proven to:
• Fight Depression
• Increase Focus
• Manage Stress
• Central Blood Sugar Levels
• Maintain a Healthy Weight
• Help Fight Colds and Diseases
• Improve Memory

Exercise and better food choices can help you keep a healthy weight. Studies have shown that having a heavier body makes us have a smaller brain. So keep your weight down and your brain healthy!
Brain Links’ Training Satisfaction Survey

Check the chat ➔ ➔ Take the 1 minute survey!

Thank you in advance for supporting our grant efforts!!!

You’ll need to enter:
August 17th
Resiliency & Brain Health
Wendy
Thank you!

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Tennessee Disability Coalition
955 Woodland Street | Nashville | TN 37206 | 615-383-9442 www.tndisability.org/brain

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Resources available at  www.tndisability.org/brain